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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,545	03/20/2001	Bruce D. Melick	P04409US1	2555
22885	7590	10/18/2005	EXAMINER	
MCKEE, VOORHEES & SEASE, P.L.C.			SEDIGHIAN, REZA	
801 GRAND AVENUE			ART UNIT	
SUITE 3200			PAPER NUMBER	
DES MOINES, IA 50309-2721			2633	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

OK

<b>Office Action Summary</b>	<b>Application No.</b> 09/812,545	<b>Applicant(s)</b> MELICK ET AL.	
	<b>Examiner</b> M. R. Sedighian	<b>Art Unit</b> 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-4, 19, 21-28, 30, 31, 38-43, 45-47, 49, 50 and 57-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 19, 21-28, 30-31, 38-43, 45-47, 49-50, 57-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 2633

1. This communication is responsive to applicant's 8/19/05 amendments in the application of Melick et al. filed 3/20/01. The amendments have been entered. Claims 1-4, 19, 21-28, 30-31 38-43, 45-47, 49-50, 57-61 are now pending.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 19 and 57 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As to claims 19 and 57, the specification does not clearly describe how data can be stored on a fiber optic cable.

Specification describes (Page 7, lines 21-23) through the use of a repeater, data stored in form of light pulses and/or spaces therebetween may be stored on a loop of a fiber optic cable.

Specification further describes (Page 7, lines 24-26) storage on a loop of fiber optic cable may occur by turning a repeater "on" and pulses of data may be accessed at any time by viewing the looped signal or pulses input to the repeater through well known programming methods. It is not clear which repeater is turned on, and how pulses of data can be accessed at any time by viewing the looped signal to the repeater. Furthermore, specification does not describe how the variable duration pulses are repeated over the fiber optic cable in the direction of the receiver.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 2, it is not clear what is meant by "... pulse characteristics correspond to numbers 0 through 9." As it is described by the specification and chart 1, examiner suggest claim 2 be amended as fallows: One of the set of pulse characteristics corresponds to the pulse duration, wherein the pulse duration length corresponds to numbers 0 through 9.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 4, 21, 23-24, 27, 38-43, 46-47, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Calfee et al. (US Patent No: 4,539,992).

Regarding claims 1, 21, 38, 47, Calfee teaches a method of transmitting data (col. 3, lines 58-62), comprising: receiving a digital bit of data from a memory unit (col. 6, line 14-17, col. 8, lines 5-9 and 32, fig. 2); transforming the bit of data into a transmission pulse (col. 6, lines 16-18, col. 8, lines 8-12 and 34, fig. 2), the transmission pulse having a pulse characteristic selected

Art Unit: 2633

from a set of three or more predetermined pulse characteristics (col. 6, line 19-20, col. 7, line 24, col. 8, line 11, col. 17, line 55), one of which is corresponding to the bit of data (col. 8, lines 11-12); and transmitting the transmission pulse over a guided medium (col. 6, lines 40-41 and the transmission medium between modulator 34 and amplifier 40, fig. 2) without using a carrier signal to transmit the transmission pulse (col. 6, lines 50-57).

Regarding claims 4, 46, and 50, Calfee further teaches receiving (46, fig. 2) the transmission pulse from the transmission medium (col. 6, lines 67-68, col. 7, lines 1-3), and transforming the transmission pulse into a digital bit of data corresponding to the characteristics of the transmission pulse (col. 7, lines 12-25).

Regarding claim 23, Calfee teaches the transmission pulse is an electronic pulse that is transmitted over a guided media (col. 6, lines 36-44).

Regarding claim 24, Calfee teaches the pulse characteristics are pulse durations (col. 17, lines 54-57).

Regarding claim 27, Calfee teaches the pulse characteristics is a pulse position (col. 6, line 19).

Regarding claim 39, Calfee teaches the transmission pulse characteristics corresponding to the bits of data is the transmission pulses position in time (col. 6, lines 15-18).

Regarding claim 40, Calfee teaches the transmission pulse characteristic corresponding to the bits of data is the duration between transmission pulses (col. 17, lines 54-57).

Regarding claim 41, Calfee teaches the transmission pulse characteristic corresponding to the bits of data is the amplitude of the transmission pulse (col. 18, lines 38-41).

Regarding claim 42, Calfee teaches the transmission pulse characteristic corresponding to the bits of data is the duration of the transmission pulses (col. 17, lines 54-57).

Regarding claim 43, Calfee teaches the transmission pulse characteristic corresponding to the bits of data is the phase of the transmission pulse (col. 7, lines 19-25).

8. Claims 19 and 57 are rejected under 35 U.S.C. 102(e) as being anticipated by Ionov et al. (US Patent No: 6,804,471).

Regarding claim 19 and 57, as it is understood in view of the above 112 problem, Ionov teaches a method of storing data on a fiber optic cable (col. 3, lines 39-41 and 16, fig. 1), the method comprising: receiving data in a receiver (131, fig. 4), the data being in the form of a series of variable duration pulses of light (col. 3, lines 30-35, 57, 60); transmitting the variable duration pulses from a transmitter (14, fig. 1) over a fiber optic cable (16, fig. 1); receiving the variable duration pulses in the receiver (131, 134, fig. 4), and repeating (113, 112, 116, fig. 4) the transmission of the variable duration pulses over the fiber optic cable in the direction of the receiver (col. 4, lines 48-55, note that the transmission pulses are amplified and further splitted or repeated toward the receiver). Furthermore, the recitation “storing data on a fiber optic cable” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

9. Claims 19 and 57 are rejected under 35 U.S.C. 102(e) as being anticipated by Fishman et al. (US Patent No: 6,607,311).

Regarding claim 19 and 57, as it is understood in view of the above 112 problem, Fishman teaches a method of storing data on a fiber optic cable (and 50, 20, fig. 2), the method comprising: receiving data in a receiver (70, fig. 2), the data being in the form of a series of variable duration pulses of light (col. 5, lines 58-67, col. 6, lines 6-11); transmitting the variable duration pulses from a transmitter (Tx<sub>1</sub>, fig. 2) over a fiber optic cable (50, fig. 2); receiving the variable duration pulses in the receiver (Rx<sub>1</sub>, fig. 2), and repeating (20, 60, fig. 2) the transmission of the variable duration pulses over the fiber optic cable in the direction of the receiver (note that the signal pulses are amplified and repeated in few stages toward the receiver). Furthermore, the recitation “storing data on a fiber optic cable” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Calfee et al. (US Patent No: 4,539,992) in view of Kohdaka et al. (US Patent No: 5,245,345).

Regarding claim 2, as it is understood in view of the above 112 problem, Calfee differs from the claimed invention in that Calfee does not specifically disclose the pulse duration length corresponds to numbers 0 through 9. Kohdaka teaches a method of pulse signal transmission (col. 4, lines 19-24), wherein pulse duration length corresponds to numbers 0 through 9 (col. 5, lines 49-61). Therefore, it would have been obvious to an artisan at the time of invention to incorporate a method of signal pulse transmission system such as the one of Kohdaka for the data pulse transmission system of Calfee to transmit variable duration signal pulses.

12. Claims 3, 30, 45, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calfee et al. (US Patent No: 4,539,992) in view of Cox (US Patent No: 5,050,189).

Regarding claims 3, 30, 45, 49, Calfee differs from the claimed invention in that Calfee does not specifically disclose the data is in the form of universal character encoding. Cox teaches a method of signal pulse transmission system (col. 5, lines 60-65), wherein the data is in the form of universal character encoding (col. 6, lines 38-40). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a method of universal character encoding, as it is taught by Cox, for the data transmission system of Calfee in order to transmit a plurality of different data signals.



13. Claims 21-22, 25- 26, 28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miwa (US Patent No: 4,921,468) in view of Fitelson et al. (US Patent No: 4,703,471), or Swenson et al. (US Patent No: 6,426,813).

Regarding claims 21-22, and 28, Miwa teaches a method of transmitting data (col. 3, lines 4-6) with photonic pulses (col. 3, lines 5-7), comprising: receiving at least one digital bit of data from a memory unit (col. 4, lines 61-68, col. 5, lines 17-20 and 17, fig. 1); transforming the at least one digital bit of data into a transmission pulse (col. 7, lines 5-7 and 9, fig. 1), the transmission pulse having a pulse characteristic selected from a set of at least three predetermined pulse characteristics, one of which corresponding to the bits of data (col. 5, lines 49-54, col. 10, line 39); transmitting the transmission pulse without using a carrier signal to transmit the transmission pulse (col. 3, lines 4-8). Miwa differs from the claimed invention in that Miwa does not specifically disclose transmitting the optical pulses over a fiber optic cable. However, it is well known that optical pulses can be transmitted over a fiber optic cable. Miwa teaches the information can be transmitted between a transmitter and a receiver over a fiber optic cable (col. 1, lines 12-18). Fitelson teaches optical signal pulses (col. 7, lines 43-47) can be transmitted over a fiber optic cable (T<sub>01</sub>, fig. 1). Likewise, Swenson teaches coupling light pulses onto a fiber optic link (col. 7, lines 5-9). As it is taught by Fitelson and Swenson, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a method of optical fiber signal pulse transmission, for the signal light transmission system of Miwa, to provide a high speed data transmission system.

Regarding claim 25, Miwa teaches the pulse characteristics are pulse durations (col. 5, lines 49-66), and wherein the transmission pulse is a pulse of light (col. 7, lines 5-8, 25-33).

Regarding claim 26, Miwa teaches the pulse characteristic is a pulse position (col. 5, lines 49-56, col. 6, lines 37-47) and wherein the transmission pulse is a pulse of light (col. 7, lines 5-8, 25-33).

Regarding claim 31, Miwa teaches receiving the transmission pulse (col. 8, lines 30-33, 56-59), and transforming the transmission pulse into digital bits of data corresponding to the position of the transmission pulse (col. 9, lines 23-25, col. 10, lines 1-31). As to receiving the transmission pulse from a fiber optic cable, it is well known that light pulses can be transmitted and received through a fiber optic cable, as discussed above in claim 28.

14. Claims 58-61 are rejected under 35 U.S.C. 102(e) as being anticipated by McCorkle et al. (US Patent No: 6,700,939).

Regarding claim 58, McCorkle teaches a method of transmitting data (col. 2, lines 51-65), comprising: representing at least one bit of data by varying a pulse characteristic of a time modulated ultrawideband pulse (col. 4, lines 48-52, col. 5, lines 30-45, col. 9, lines 59-66, col. 14, lines 40-55), wherein the pulse characteristic is selected to be one of a set of at least three pulse characteristic based on the value of the at least one bit of data (col. 5, lines 40-45), and transmitting the time modulated ultrawideband pulse over a guided medium (col. 9, lines 59-66, col. 10, lines 53-59 and 121, 108, 110, 123, 125, fig. 1) to a receiver (col. 3, lines 22-25, col. 18, lines 40-55 and fig. 2A).

Regarding claim 59, McCorkle teaches each of the pulse characteristic within the set is a pulse duration (col. 14, lines 55-57).

Regarding claim 60, McCorkle teaches each of the pulse characteristic within the set is a pulse position (col. 4, lines 52-55, col. 9, lines 55-57).

Regarding claim 61, McCorkle teaches each of the pulse characteristic within the set is a pulse spacing (col. 9, lines 37-40).

15. Applicant's arguments with respect to claims 1, 21, 28, 38, and 47 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments with respect to claims 58-61 have been fully considered but they are not persuasive. As to claim 58, remark states McCorkle does not disclose transmission of signals "over a guided medium to a receiver". However, McCorkle discloses transmission of UWB short pulses from a transmitter (col. 3, lines 18-20 and fig. 1) through guided mediums 108, 110, 123, 125, 127 to a receiver (col. 3, lines 22-25 and fig. 2A).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2633

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M. R. SEDIGHIAN  
PRIMARY EXAMINER